

# Plot Keyword Argument

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# Import the modules needed for the tutorial
# cdms - Climate Data Management system accesses gridded data.
# vcs - Visualization and control System 1D and 2D plotting routines.
# cdutil - Climate utilizes that contains miscellaneous routines for
# manipulating variables.
# time - This module provides various functions to manipulate time values.
# os - Operation System routines for Mac, DOS, NT, or Posix depending on
# the system you're on.
# sys - This module provides access to some objects used or maintained by
# the interpreter and to functions that interact strongly with the interpreter.
import vcs, cdms, cdutil, time, os, sys

# Open data file:
filepath = os.path.join(sys.prefix, 'sample_data/clt.nc')
cdmsfile = cdms.open( filepath )

# Extract a 3 dimensional data set and get a subset of the time dimension
data = cdmsfile('clt', longitude=(-180, 180), latitude = (-90., 90.))

# Initial VCS:
v = vcs.init()

# List "plot" keyword arguments and their discription
vcs.help( 'plot' )

# Set the "variable" attribute keyword arguments:
v.plot(data, 'ASD', name='name', long_name='varid',
hms='hms',units='units', ymd='ymd', file_comment='file_comment',
comment1='comment1', comment2='comment2',
comment3='comment3',comment4='comment4')

print "Press the Return key to see next plot."
sys.stdin.readline()

#Set the "dimension" attribute keyword arguments:
v.clear()
v.plot(data, 'ASD', xname='Xname', yname='Yname')

print "Press the Return key to see next plot."
sys.stdin.readline()

# Set the "CDMS" object keyword arguments:
# Set the "Continents" keyword arguments:
# The continents-type values are integers ranging from 0 to 11, where:
# 0 signifies "No Continents"
# 1 signifies "Fine Continents"
# 2 signifies "Coarse Continents"
# 3 signifies "United States"
# 4 signifies "Political Borders"
# 5 signifies "Rivers"
# Values 6 through 11 signify the line type defined by the files
# data_continent_other7 through data_continent_other12.
v.clear()
v.plot(data, continents=0)

print "Press the Return key to see next plot."
sys.stdin.readline()

v.clear()
v.plot(data, continents=1)
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print "Press the Return key to see next plot."
sys.stdin.readline()

# United States :
v.clear()
v.plot(data, continents=3)

print "Press the Return key to see next plot."
sys.stdin.readline()

# Set the "Ratio" keyword argument:
v.clear( )
v.plot( data, ratio=1 ) # Only modify the data image

print "Press the Return key to see next plot."
sys.stdin.readline()

v.clear( )
v.plot( data, ratio='lt' ) # shrink border to fit data image

print "Press the Return key to see next plot."
sys.stdin.readline()

#Set the "Background Mode" keyword argument:
v.plot(data, bg=1)
v.showbg( )

print "Press the Return key to quit."
sys.stdin.readline()
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